

STATE OF NEW MEXICO  
BEFORE THE SECRETARY OF THE ENVIRONMENT

<b>IN THE MATTER OF THE APPLICATION OF BULLDOG COMPRESSOR STATION (XTO ENERGY) FOR AN AIR QUALITY PERMIT, NO. 8153-M1</b>	<b>AQB 21-31</b>
<b>JAYHAWK COMPRESSOR STATION (XTO ENERGY) FOR AN AIR QUALITY PERMIT, NO. 8152-M1</b>	<b>AQB 21-32</b>
<b>LONGHORN COMPRESSOR STATION (XTO ENERGY) FOR AN AIR QUALITY PERMIT, NO. 8349-M2</b>	<b>AQB 21-33</b>
<b>COWBOY CDP (XTO ENERGY) FOR AN AIR QUALITY PERMIT, NO. 7877-M1</b>	<b>AQB 21-34</b>
<b>WILDCAT COMPRESSOR STATION (XTO ENERGY) FOR AN AIR QUALITY PERMIT, NO. 7474-M2</b>	<b>AQB 21-35</b>
<b>ZIA HILLS CENTRAL FACILITY (CONOCOPHILLIPS) FOR AN AIR QUALITY PERMIT, NO. 7746-M8</b>	<b>AQB 21-36</b>
<b>WILLOW LAKE GAS PLANT (CRESTWOOD NEW MEXICO) FOR AN AIR QUALITY PERMIT, NO. 5142-M8</b>	<b>AQB 21-38</b>
<b>MAVERICK COMPRESSOR STATION (XTO) FOR AN AIR QUALITY PERMIT, NO. 7565-M2</b>	<b>AQB 21-39</b>
<b>SPARTAN COMPRESSOR STATION (XTO) FOR AN AIR QUALITY PERMIT, NO. 7681-M2</b>	<b>AQB 21-40</b>
<b>TIGER COMPRESSOR STATION (XTO) FOR AN AIR QUALITY PERMIT, NO. 7623-M2</b>	<b>AQB 21-41</b>

**TESTIMONY OF ADAM ERENSTEIN, TRINITY CONSULTANTS, ON BEHALF OF  
CRESTWOOD NEW MEXICO PIPELINE LLC**

**I. Executive Summary**

I, Adam Erenstein,<sup>1</sup> submit the following testimony on behalf of Crestwood New Mexico Pipeline LLC (“Crestwood”) in support of the permit application for the Willow Lake Gas Plant (the “Facility”) in the above-named caption and as described in more detail below and in accompanying Crestwood witness testimony.<sup>2</sup> I am the Manager of Consulting Services for Trinity’s Albuquerque office and have more than ten years of air quality modeling and state and federal air permitting experience. I have served as Crestwood’s air quality consultant for the Facility since 2013 and supervised preparation of Crestwood’s February 2021 permit application (draft Permit No. 5142M8), including the AERMOD air dispersion modeling.<sup>3</sup> In addition to this direct technical testimony, I will be available at the hearing for follow up questions and rebuttal testimony.

My testimony addresses each of the issues raised by WildEarth Guardians (“WEG”) in their April 16, 2021 and June 28, 2021 petitions. A summary of my testimony is as follows:

1. Contrary to WEG’s assertions, draft Permit No. 5142M8 should be issued for the following reasons:
  - a. Crestwood accurately identified all point sources at the Facility;
  - b. The Facility should not be aggregated with any nearby oil and gas wells feeding the facility because Crestwood does not own these wells (among other reasons);
  - c. The AERMOD air dispersion modeling was approved by New Mexico Environment Department (“NMED”) and complies with applicable New Mexico regulations. Modeling also demonstrates that emissions are well below any applicable standard, including the applicable ozone National Ambient Air Quality Standard (“NAAQS”);
  - d. Eddy County, where the Facility is located, is not in ozone “nonattainment” because the U.S. Environmental Protection Agency (“EPA”), which has the sole and exclusive authority to make such designation, has not done so;
  - e. All emissions from the Facility are well below the Significant Impact Levels (“SILs”) and, therefore, under well-established EPA and New Mexico guidance by definition will not “cause or contribute” to any NAAQS exceedance;
  - f. The Facility is considered a minor source for purposes of the Prevention of Significant Deterioration (“PSD”) program, and therefore does not “trigger” PSD requirements or analysis;

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<sup>1</sup> Mr. Erenstein’s resume is attached as **Exhibit Crestwood-4**.

<sup>2</sup> For a detailed overview of the Facility and its operations, as well as a detailed description of Crestwood’s Application and equipment that Crestwood requests to add to its Facility via draft Permit No. 5142M8, please see Testimony of Moshe Wolfe, P.E., and Jonathan Smith, on Behalf of Crestwood New Mexico Pipeline LLC, filed simultaneously with Mr. Erenstein’s testimony.

<sup>3</sup> Attached as **Exhibit Crestwood-5**.

- g. The Facility will not exceed New Mexico's Toxic Air Pollutant Limits; and
- h. Emissions associated with Startup, Shutdown and Malfunction ("SSM") events are properly considered and incorporated into the Application consistent with New Mexico rules and guidance.

2. WEG has not provided any valid technical or other reason why Crestwood's draft permit for the Facility should not issue.

## **II. Overview of the Facility**

The Facility is located approximately 2.67 miles southwest of Malaga, New Mexico, in Eddy County. The Facility is comprised of two natural gas processing units to recover natural gas liquids ("NGL"): (1) Willow Lake 1 is a turbo-expander cryogenic separation system that removes a significant fraction of the ethane and heavier hydrocarbon compounds from the natural gas stream (primarily composed of methane); and (2) Willow Lake 2 is a refrigerated Joule-Thompson plant that also removes ethane and heavier hydrocarbon compounds using a combination of mechanical refrigeration and a Joule-Thompson effect. Both the turbo-expander cryogenic separation system at Willow Lake 1 and the Joule-Thompson plant in Willow Lake 2 cool the gas to liquify ethane and heavier hydrocarbons, resulting in NGLs that can be delivered to the downstream Orla Express Pipeline. It is necessary to remove the NGLs from other hydrocarbons via the cooling/liquification process to make the residue gas (methane) meet the downstream specifications prior to transfer to a transmission pipeline.

The Facility receives natural gas from gathering pipelines. Once in the Facility, the gas is compressed, processed, and dehydrated; or only compressed and dehydrated. The compressed gas is then delivered to downstream users. Crestwood's Application requests to modify its current new source review ("NSR") permit by adding equipment: three compressor engines, one produced water/condensate tank, and a triethylene glycol dehydration unit and associated reboiler. The additional equipment will allow Crestwood to increase the gas gathering capacity of the Facility, accommodating increased production from upstream oil and gas producers and enabling those producers to send their gas for processing instead of flaring or venting in the field. For a more detailed description of the Facility and its operations, please see the Testimony of Moshe Wolfe, P.E., and Jonathan Smith, on Behalf of Crestwood New Mexico Pipeline LLC, filed simultaneously with my testimony and incorporated as though fully set forth here.

## **III. Crestwood's Responses to WEG's Petitions**

As described below, draft Permit No. 5142M8 complies with all applicable state and federal air quality standards. In this section, I provide responses to specific WEG comments regarding the Application made in letters addressed to the NMED Permit Section dated April 16, 2021 and June 28, 2021. Crestwood, through me, respectfully reserves the right to respond to any additional comments or arguments, verbal or written, WEG or its witnesses may make after submission of this testimony.

**A. The Facility is a Single Source and the Application Includes All Point Sources**

**WEG Comment [April 16, 2021]:** *The application fails to explain or ensure: Whether the proposed permit properly encompasses all point sources of pollution that are a point of the single source subject to permitting. We are concerned that the permit does not address a number of other pollutant-emitting activities that are part of the Willow Lake gas facility, including:*

- *Compressor engine blowdowns and/or maintenance activities;*
- *Pigging operations;*
- *Liquid loadout operations;*
- *Gas actuated pneumatic controllers; and*
- *Emissions from oil and gas wells that feed the facility and are adjacent for new source review permitting purposes.*

**WEG Comment [June 28, 2021]:** *We are concerned that Crestwood's application and the proposed permit does not address emissions from gas-actuated pneumatic controllers at the Willow Lake Gas Processing Plant. Gas-actuated pneumatic controllers are point sources of air pollution and cumulatively release large amounts of VOC emissions. NMED must disclose the number of gas-actuated pneumatic controllers at the Willow Lake facility and estimate total VOC emissions from these pollutant emitting activities.*

**Erenstein Response:**

WEG has raised two separate arguments here: (1) whether the Facility is properly a “single source” or whether emissions from oil and gas wells that feed the Facility should be included; and (2) whether all point sources at the Facility are properly accounted for in the Application. These are taken in turn.

***Designation of Single Source (Aggregation)***

Every source that applies for a NSR permit must evaluate whether surrounding and associated sources (including those sources directly connected to the permitted source for business reasons) should be included in the “facility” to ensure that the source applying for the permit is a “single source.” NMAC 20.2.72.7.EE defines “source” as “any building, structure, equipment, facility, installation (including temporary installations), operation or portable stationary source which emits or may emit any air contaminant.” NMED’s guidance provides three criteria that must be met for sources to be included (or “aggregated”) as a “single source.”<sup>4</sup>

- The facility(s) must belong to the same industrial grouping (i.e., same two-digit SIC code grouping, or support activity);
- The facility(s) must be under common ownership or control; and

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<sup>4</sup> Single Source Determination Guidance (May 7, 2010), available at: [https://www.env.nm.gov/wp-content/uploads/sites/2/2017/08/Single\\_Source\\_Determination\\_Guidance\\_05July10.doc](https://www.env.nm.gov/wp-content/uploads/sites/2/2017/08/Single_Source_Determination_Guidance_05July10.doc) (attached as **Exhibit Crestwood-6**).

- The facility(s) must be located on one or more contiguous or adjacent properties.

All of these requirements must be met to “aggregate” sources. If one is not met, the sources may not be aggregated.

Crestwood’s Facility, as further described in the accompanying testimony of Mr. Wolfe and Mr. Smith, qualifies as a single source because all three criteria are met. First, Willow Lake 1 and Willow Lake 2 have the same SIC code: 1321. The Willow Lake Compressor Station has a different SIC code (1311) because it is solely a compressor station. However, the Willow Lake Compressor Station functions in the same industrial grouping or support activity as Willow Lake 1 and Willow Lake 2 (i.e., compression of natural gas).<sup>5</sup> Second, Crestwood New Mexico Pipeline LLC owns all three facilities. And third, all three facilities are located on the same or adjacent properties at 393 Higby Hole Road, Malaga, NM 88263. Willow Lake 1 and Willow Lake 2 are located on the same property and a public access road runs in between them. In addition, the Willow Lake Compressor Station is located within the fence line of Willow Lake 1, meaning it is co-located.

Contrary to WEG’s assertion, oil and gas wells and related infrastructure within the vicinity of the Facility not owned by Crestwood cannot be aggregated into the Facility’s single source determination. WEG has provided no authority for its assertion that proximate wells, not owned by the same company, should be aggregated as part of the Facility. In fact, aggregating these sources with the Facility would violate NMAC 20.2.72.7.EE and NMED’s guidance because those sources do not share the Facility’s SIC code or a sufficiently similar function or primary activity. Thus, the pending Application for the Facility considers the proper sources as the “single source” defined above as the “Facility,” and properly excludes any nearby upstream oil and gas production facilities.

### *Designation of Point Sources*

With respect to the “point sources” at the Facility, WEG’s arguments are similarly without merit. The New Mexico Air Quality Bureau’s Air Dispersion Modeling Guidelines define “point sources” as “[s]ources that come from a stack or a vent.”<sup>6</sup> All point sources that fit this definition within the Facility are included in Draft Permit No. 5142M8, including those identified by WEG in its comments. For a complete list, please see Table 2-A in Crestwood’s Application.

WEG’s arguments related to pneumatic controllers also are incorrect. A pneumatic controller is a device used to control the movement of a particular item using compressed gas or air as the driving force. For example, pneumatic controllers are typically used in manufacturing settings to move equipment arms to adjust where products would go on a processing line. In the

<sup>5</sup> See also Single Source Determination Guidance at 2 (“[c]o-located, contiguous, or adjacent facilities that convey, store, or otherwise assist in the production of the principal product could be considered ‘support’ facilities . . . —a determination made by the “principal product . . . produced or distributed or by the services that the primary activity renders.”).

<sup>6</sup> NMED Dispersion Modeling Guidelines at 62 (rev. Oct. 26, 2020), available at: [https://www.env.nm.gov/wp-content/uploads/sites/2/2017/01/NM\\_AirDispersionModelingGuidelines\\_26October2020.pdf](https://www.env.nm.gov/wp-content/uploads/sites/2/2017/01/NM_AirDispersionModelingGuidelines_26October2020.pdf) (attached as **Exhibit Crestwood-7**).

oil and gas context, pneumatic controllers (i.e., the device) typically monitor a process parameter like liquid levels, pressures, or temperatures, and use pressurized gas or air to send a signal to a control valve to control that process parameter. So, for example, when a liquid level reaches a certain point, a pneumatic controller will send a signal to a control valve to open (or “actuate”), allowing the liquid to move to the next process. The process of a pneumatic controller “actuating” will vent small amounts of gas as part of normal operations when natural gas is used to “actuate” the controller. However, compressed air (also known as “instrument air”) can serve the same actuation function as natural gas. This is known as instrument air driven pneumatic controllers, and they are common at larger facilities like compressor stations and gas processing plants due to the availability of sufficient electricity necessary to compress the air. All of the Facility’s pneumatic devices utilize instrument air and there are no natural gas-driven pneumatic controllers at the Facility. Air-driven pneumatic controllers like the Facility’s pneumatic controllers do not produce emissions.

**B. The AERMOD Air Dispersion Modeling Complies with New Mexico Regulations.**

**WEG Comment [June 28, 2021]:** *Guardians request that the Department explain whether or not Crestwood’s air dispersion modeling results are accurate in reporting no increase in air pollutant concentrations from surrounding sources. We further request the Department include in its explanation a copy of the Air Quality Bureau’s surrounding source inventory on which Crestwood based its modeling.*

**Erenstein Response:**

Trinity conducted AERMOD air dispersion modeling for Draft Permit No. 5142M8. AERMOD is the approved NMED and EPA air dispersion model for modeling within 50 kilometers of a source to determine compliance with the NAAQS, NMAAQs, and PSD Standards.<sup>7</sup>

The air dispersion modeling requirements are detailed in NMAC 20.2.70.300.D.10 (Operating Permits) and NMAC 20.2.72.203.A.4 (Construction Permits).<sup>8</sup> Each construction permit application must include an analysis, prepared by the applicant, of the air quality standards with which the source to be constructed or modified must comply.

The below table summarizes the results of the modeling for each pollutant submitted with the Application and the full modeling report is attached as **Exhibit Crestwood-5. The modeling demonstrates the changes requested in the Application will not result in any exceedance of any applicable NAAQS, NMAAQs or PSD Standards.** A summary of the modeling results is in Table 1 below.

<sup>7</sup> AERMOD is a steady-state Gaussian air dispersion model.

<sup>8</sup> NMAC 20.2.72.203.A.4 requires the applicant to provide a regulatory compliance discussion demonstrating compliance with each applicable standard and the discussion “must include an analysis, which may require use of US EPA-approved air dispersion models, to . . . demonstrate that emissions from routine operations will not violate any New Mexico of [NAAQS or PSD Increment].” Air dispersion modeling is typical for this type of facility/source.

**Table 1: Summary of AERMOD Modeling Results**

Criteria Pollutant (Time Period)	Modeled Facility Concentration (µg/m3)	Background Concentration (µg/m3) <sup>9</sup>	Cumulative Concentration (µg/m3)	Value of Standard (µg/m3)	Percent of Standard	Will Facility exceed applicable NAAQS, NMAAQS, or PSD Standard?
CO (8-hour) Significance	14.22	-	14.22	500	2.8%	<b>NO</b>
CO (1-hour) Significance	24.86	-	24.86	2000	1.2%	<b>NO</b>
H <sub>2</sub> S (1/2-hour) Significance	0.12	-	0.12	5	2.3%	<b>NO</b>
PM <sub>2.5</sub> (annual) Significance	0.11	-	0.11	0.2	52.5%	<b>NO</b>
PM <sub>2.5</sub> (24-hour) Significance	1.05	-	1.05	1.2	87.3%	<b>NO</b>
PM <sub>10</sub> (annual) Significance	0.11	-	0.11	1	10.5%	<b>NO</b>
SO <sub>2</sub> (annual) Significance	0.19	-	0.19	1	18.9%	<b>NO</b>
SO <sub>2</sub> (24-hour) Significance	1.87	-	1.87	5	37.5%	<b>NO</b>
SO <sub>2</sub> (3-hour) Significance	3.51	-	3.51	25	14.1%	<b>NO</b>
SO <sub>2</sub> (1-hour) Significance	5.00	-	5.00	7.8	64.1%	<b>NO</b>
NO <sub>2</sub> (annual) - NMAAQS	7.68	5.00	12.68	94.0	13.5%	<b>NO</b>
NO <sub>2</sub> (annual) - NAAQS	112.47	38.7	151.17	188.03	80.4%	<b>NO</b>
NO <sub>2</sub> (annual) – PSD Class II	7.68	5.00	12.68	25	50.7%	<b>NO</b>
NO <sub>2</sub> (annual) – PSD Class II	0.0064	-	0.0064	0.1	6.4%	<b>NO</b>

### C. The Draft Permit Complies with All Applicable NAAQS and NMAAQS

**WEG Comments [April 16, 2021]:** *Turning to the air permit application itself, we have reviewed Crestwood’s application for a permit to modify its Willow Lake gas facility, but we cannot confirm that the proposed modification will comply with national ambient air quality standards and state air regulations, unless the Department also grants the public an opportunity to review the proposed permit conditions that ensure compliance with state and federal air regulations, as well as the Department’s full analysis of Crestwood’s permit application.*

...

*Whether the air dispersion modeling completed by the applicant effectively ensures the Willow Lake gas facility will not cause or contribute to violations of national ambient air quality standards. It is not clear from the application why or whether it was appropriate for the applicant to conduct air dispersion modeling using background concentrations of CO from an air quality monitor in Albuquerque, NM and background concentrations of SO<sub>2</sub> from an air quality monitor Amarillo, TX. Air quality monitors for these pollutants in El Paso and Big Springs, TX are closer to the applicant’s air pollutant source and likely more representative of background air pollutant concentrations.*

### Erenstein Response:

Trinity completed comprehensive AERMOD air dispersion modeling for Crestwood’s Application and determined that the requested modifications comply with all applicable NAAQS and NMAAQS.<sup>10</sup> See Table 1: Summary of AERMOD Modeling Results (above).

<sup>9</sup> Background concentrations are used for Cumulative Impact Analysis (“CIA”) and PSD Increment modeling that is greater than the Significant Impact Analysis.

<sup>10</sup> Dispersion modeling was performed for SO<sub>2</sub> and CO. Dispersion modeling is not required for ozone emissions from PSD *minor* sources. NMED Dispersion Modeling Guidelines at 12.

As part of the air dispersion modeling process, Crestwood submitted a modeling protocol to NMED for approval prior to beginning any modeling for the Application. As is typical in the modeling process, NMED requested information on background monitors in advance. Crestwood submitted information for the Amarillo monitor (ID 483751025), which NMED has approved for use in Eastern New Mexico,<sup>11</sup> because it represents SO<sub>2</sub> background concentration values higher than anywhere in New Mexico.<sup>12</sup> Crestwood also submitted information for the Del Norte High School monitor (ID 350010023), which is located at 4700a San Mateo NE, Albuquerque, NM, to represent CO background concentrations. In an email dated January 26, 2021, NMED approved the submittal of both monitors as acceptable background monitors. In my experience, relying on monitors potentially large distances from the source where those monitors show conservatively low readings is an acceptable modeling methodology. This approach ensures the emissions from the Facility will be compliant and protective even compared to a worst case scenario. In fact, comparing Crestwood's modeling results to the Del Norte High School monitor in Albuquerque for the relatively low-population and low-development location of the Facility allows Crestwood to ensure compliance with all applicable standards, which in turn ensures the Facility's emissions are sufficiently protective of public health and the environment.<sup>13</sup>

#### **D. The Draft Permit Complies with the Ozone NAAQS**

**WEG Comment [April 16, 2021]:** *We are particularly interested in ensuring this permit modification will comply with all federal and state air regulations because the air quality in Eddy County currently violates the 8-hour ozone National Ambient Air Quality Standard ("NAAQS"), meaning its air quality is in nonattainment. Ozone is a harmful air pollutant that extensive scientific evidence shows is associated with increases in respiratory infections, asthma attacks, and premature death, among other public health and economic impacts. Given the importance of preventing these public health impacts, it is critical for the public to understand how the Department determined that the proposed permit modification will not cause or contribute to air contaminant levels in excess of the NAAQS or New Mexico ambient air quality standards. 20.2.72.208D NMAC. Without the information we requested above, the public cannot understand the basis of the Department's determination.*

*In determining whether or not proposed emissions will cause or contribute to a violation of the NAAQS, EPA has indicated that if a permitting authority wishes to base case-by-case determinations of ozone impacts on EPA guidance regarding significant impact levels for ozone, "...[the permitting agency] must justify the values and their use in the administrative record for the permitting action." This case-by-case justification requirement is a function of the fact that neither EPA nor the Department have issued final agency rules, confirming that EPA's recommended SIL values for ozone are suitable in all circumstances to show that an increase in*

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<sup>11</sup> *Id.* at 53.

<sup>12</sup> Crestwood did not use the data from the approved background monitors because the AERMOD modeling results indicated that carbon monoxide ("CO") and sulfur oxide ("SO") emissions would be well below the significant impact level thresholds.

<sup>13</sup> "Ambient CO monitors to represent New Mexico are very limited. Concentrations near Sunland Park are best represented by monitors in El Paso. Monitors operated by Albuquerque should be conservative for the rest of New Mexico." NMED Dispersion Modeling Guidelines at 45.



*air quality concentration below the value does not cause or contribute to a violation of the NAAQS or PSD increments. These issues regarding whether or not the proposed air permit modification will cause or contribute to an exceedance of the NAAQS are not identical to those that were litigated in EIB Nos. 20-21(A) and 20-33(A), and as such the Environmental Improvement Board's (EIB) decision in that case is not binding here.*

### **Erenstein Response:**

This portion of the testimony responds to WEG's two arguments made here: (1) that Eddy County is in ozone nonattainment; and (2) that NMED erred in determining the Facility will not cause or contribute to an exceedance of the ozone NAAQS.

### ***Ozone Attainment***

Ozone (O<sub>3</sub>) is a gas composed of three atoms of oxygen. Ozone occurs in the Earth's upper atmosphere and at ground level. The focus for purposes of WEG's allegations at this hearing is ground-level ozone. Ground-level ozone is not emitted directly into the air. Instead, ground-level ozone is formed when nitrous oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs) chemically react in sunlight. These are known as ozone "precursors." Because ground-level ozone is not directly emitted into the air, EPA's regulations focus on the precursors—emissions of VOCs and NO<sub>x</sub>—to mitigate ozone concentrations where such concentrations are above NAAQS levels.

EPA has most recently established the primary and secondary NAAQS for ground-level ozone at 0.070 ppm, determined by the fourth-highest daily maximum 8-hour concentration, averaged across three consecutive years. The NAAQS for all criteria pollutants, including 8-hour ozone, are health-based standards. When EPA establishes a NAAQS, it cannot consider cost or technical feasibility of compliance; rather, EPA and the states consider cost and feasibility when deciding how to impose control strategies to meet the NAAQS. This framework further reinforces that setting the NAAQS standards, and judging whether an area is in attainment or not with those standards, is a purely federal issue (i.e., solely within EPA's authority)..

The precursor pollutants of NO<sub>x</sub> and VOCs are generated from a variety of sources, including power plants, industrial furnaces and boilers, cars and trucks, chemical plants, gasoline pumps, household chemicals, lawn and garden equipment, and oil and gas operations. Additionally, because air pollutants do not respect state boundaries, precursor pollutant emissions from neighboring states can contribute to ozone formation in New Mexico. Similarly, ground-level ozone concentrations may be influenced by non-point sources, such as wildfires.

For ground-level ozone (and all other criteria pollutants), EPA determines whether areas are in "attainment" with the NAAQS<sup>14</sup> based on monitoring data. Determining whether an area is in attainment is a complex process that requires EPA to exclude monitoring data influenced by exceptional events, such as wildfires and high-energy wind dust events, for example.<sup>15</sup> If the three-year average of the fourth highest maximum daily average 8-hour ozone concentration at

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<sup>14</sup> 40 C.F.R part 50.

<sup>15</sup> 40 C.F.R. § 50.14.

one or more monitors as accepted (i.e., not discarded due to exceptional events) is not in compliance with the NAAQS, the Clean Air Act directs EPA to designate that area as “nonattainment.”<sup>16</sup> It is important to reiterate that not just any data from any monitor may be used to determine NAAQS compliance—rather, it must be accepted (meaning no exceptional events or other data problems) and the exceedance must be determined solely by the three year average of the fourth highest maximum daily average, not any single monitoring event.

The process for designating an area as nonattainment is a collaboration between the states and EPA but the EPA Administrator promulgates the final nonattainment designation in the Federal Register.<sup>17</sup> EPA’s process for designating an area as nonattainment involves complicated photochemical modeling, which considers all possible sources along with complex meteorological and other conditions, and careful review of monitoring data. Photochemical grid models are intended to accurately depict the ways in which air pollution forms, accumulates, and dissipates in and across a given geographic area.

The Facility is located in Eddy County, which as of the date of submitting this testimony, is in attainment for the 8-hour ozone NAAQS. Stated differently, EPA has not designated Eddy County in nonattainment for the 8-hour ozone NAAQS. Similarly, NMED has not stated that the latest 2017–2019 ozone design values for the monitors in Eddy County indicate a potential for Eddy County to be designated nonattainment for the 8-hour ozone NAAQS. And even if New Mexico had stated otherwise, EPA, and EPA only, is authorized to designate an area’s nonattainment status. EPA has only designated one nonattainment area for the ground-level ozone NAAQS in New Mexico: the portion of Dona Ana County, NM near Sunland Park.<sup>18</sup> Sunland Park is more than 150 miles away from the Facility and EPA has not made any determinations that exceedances of the ozone NAAQS in that portion of Dona Ana County could contribute to exceedances of the ozone NAAQS in Eddy County.

Contrary to WEG’s assertion, even if an air monitor(s) records an exceedance(s) of the ozone NAAQS, that exceedance does not “suddenly” or without EPA action, change an area’s attainment status. Similarly, if modeling indicates that an area may experience exceedances of the ozone NAAQS, those modeling results cannot change the area’s status to nonattainment without action from the EPA Administrator.

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<sup>16</sup> 42 U.S.C. § 7502.

<sup>17</sup> 42 U.S.C. § 7502(a)(1)(1) (“On or after the date the Administrator promulgates the designation of an area as a nonattainment area pursuant to section 7407(d) of this title with respect to any national ambient air quality standard (or any revised standard, including a revision of any standard in effect on November 15, 1990), the Administrator may classify the area for the purpose of applying an attainment date pursuant to paragraph (2), and for other purposes. In determining the appropriate classification, if any, for a nonattainment area, the Administrator may consider such factors as the severity of nonattainment in such area and the availability and feasibility of the pollution control measures that the Administrator believes may be necessary to provide for attainment of such standard in such area.”); *see also* 42 U.S.C. § 7407(d)(1)(B) – Promulgation by EPA of designations. EPA typically designates attainment states on a county by county basis, but will sometimes include partial counties.

<sup>18</sup> [https://www3.epa.gov/airquality/greenbook/anayo\\_nm.html](https://www3.epa.gov/airquality/greenbook/anayo_nm.html).

### *Cause or Contribute Determination*

With respect to WEG's assertions that NMED acted improperly in determining that the proposed permit modification "will not cause or contribute" to NAAQS exceedances, their argument lacks any merit and is largely repetitive of arguments WEG has unsuccessfully advanced in previous hearings where I have been involved. New Mexico law precludes a permit from issuing if the requested modification would "cause or contribute to air contaminant levels in excess of any [NAAQS]." NMAC 20.2.72.208.D. The "cause or contribute" concept comes directly from the federal Clean Air Act's PSD program, which applies to PSD *major* sources, meaning those above 250 tpy.<sup>19</sup>

EPA (and the courts) have interpreted the PSD "cause and contribute" demonstration to require a showing of "significance"—that is, there must be some showing of significant impact, not just any impact, before EPA will consider that impact to "cause or contribute" to a NAAQS violation. EPA has explained this in what is known as "SIL Guidance."<sup>20</sup> The SIL Guidance identifies, for each pollutant, concentration levels known as "significant impact levels" which are designed to guide permitting determinations about when a pollutant concentration might "cause or contribute" to a NAAQS exceedance. Most importantly for the issue at hand, the SIL Guidance states that "proposed sources have met the requirement to demonstrate that they do not cause or contribute to a violation by showing that the ambient air quality impacts resulting from the proposed source's emissions would be below these concentration levels."<sup>21</sup>

New Mexico regulations and NMED rely on EPA's regulatory determinations regarding "cause and contribute" analyses under the PSD program. Specifically, NMED's Air Dispersion Modeling Guidelines states that "modeling significance levels are thresholds below which the source is not considered to contribute to any predicted exceedance of air quality standards or PSD increments."<sup>22</sup> Thus, because the Facility is a PSD minor source, the only relevant inquiry is whether the modeled emissions of ozone precursors (or any criteria pollutant) are above or below the SIL.

Crestwood conducted AERMOD Air Dispersion Modeling to represent the maximum pound per hour potential for NO<sub>x</sub>, CO, SO<sub>2</sub>, H<sub>2</sub>S, PM<sub>10</sub> and PM<sub>2.5</sub>. All pollutants fell under the SIL, except for nitrogen oxide (NO<sub>2</sub>) which was significant. However, the modeling covered all NO<sub>2</sub> average periods, including a NO<sub>2</sub> SIL, Cumulative Impacts Analysis ("CIA") for 1-hr, 24-hr and Annual, and PSD Class I & II increment. All modeling demonstrates that the Facility is in compliance with NO<sub>2</sub> limits set by the NAAQS, NMAAQs and PSD Increment Standards for minor sources per NMED Air Quality Bureau Air Dispersion Modeling Guidelines.<sup>23</sup> NMED's approach and determination with respect to the SIL to PSD-minor sources is compliant and consistent with my air quality permitting experience both in and outside of New Mexico. I do not

<sup>19</sup> 42 U.S.C. § 7479(1); 40 C.F.R. § 51.166(b)(1)(i).

<sup>20</sup> See *Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program* (April 17, 2018), available at: [https://www.epa.gov/sites/default/files/2018-04/documents/sils\\_policy\\_guidance\\_document\\_final\\_signed\\_4-17-18.pdf](https://www.epa.gov/sites/default/files/2018-04/documents/sils_policy_guidance_document_final_signed_4-17-18.pdf) ("SIL Guidance") (attached as **Exhibit Crestwood-8**).

<sup>21</sup> *Id.*

<sup>22</sup> NMED Dispersion Modeling Guidelines at 17.

<sup>23</sup> See *id.* at 21–23.

agree with WEG that NMED needs to do anything further to notify the public of how the Department made its cause or contribute determination because it was done consistent with well-established precedent.

#### **E. The Draft Permit Complies with the Nitrogen Dioxide NAAQS**

**WEG Comment [June 28, 2021]:** *We are concerned that Crestwood and NMED have not properly assessed the impacts of the proposed Willow Lake Gas Processing Plant permit to the 1-hour National Ambient Air Quality Standard for NO<sub>2</sub>. Our primary concerns are threefold:*

- 1. Crestwood and NMED did not actually model NO<sub>2</sub> impacts using maximum potential to emit emission rates. Based on Crestwood's application and NMED's Air Dispersion Modeling Summary, it is not clear that maximum potential to emit emission rates were used in modeling. Although NMED's modeling summary identifies the maximum hourly NO<sub>x</sub> limit that would be authorized for the Willow Lake Gas Processing Plant, it is not clear that this limit was actually utilized for purposes of conducting modeling. We request NMED provide more information.*
- 2. Cumulative NO<sub>2</sub> concentrations did not account for hourly SSM and malfunction emissions from adjacent facilities and did not account for truck and heavy machinery traffic adjacent to the Willow Lake Gas Processing Plant.*
- 3. The background hourly NO<sub>2</sub> value relied upon by Crestwood is inaccurate and not representative of the area where the Willow Lake Gas Processing Plant is located.*

*We urge NMED to provide more information regarding the NO<sub>2</sub> modeling prepared by Crestwood in order to justify the conclusion that modification of the Willow Lake Gas Processing Plant will not cause or contribute to violations of the 1-hour NO<sub>2</sub> NAAQS.*

#### **Erenstein Response:**

Crestwood conducted AERMOD Air Dispersion Modeling to represent the maximum pound per hour potential NO<sub>2</sub> emission rates associated with the Facility. AERMOD is the EPA-approved model recommended by NMED to model within 50 km of a source. The modeling covered all NO<sub>2</sub> average periods, including a NO<sub>2</sub> SIL, Cumulative Impacts Analysis ("CIA") for 1-hr, 24-hr and Annual, and PSD Class I & II increment. All modeling demonstrates that the Facility is in compliance with NO<sub>2</sub> limits set by the NAAQS, NMAAQs and PSD Increment Standards for minor sources per NMED Air Quality Bureau Air Dispersion Modeling Guidelines.<sup>24</sup>

Furthermore, the modeling conducted reflects the maximum pound per hour emission rates for both steady state and SSM activities. All pollutants modeled were below the SIL except for NO<sub>2</sub> which was modeled as referenced above, which indicated compliance with NAAQS, NMAAQs, and PSD Increments.

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<sup>24</sup> See *id.*

## F. The Draft Permit Does Not Trigger the PSD Program

**WEG Comment [April 16, 2021]:** *In determining whether or not proposed emissions will cause or contribute to a violation of the NAAQS, EPA has indicated that if a permitting authority wishes to base case-by-case determinations of ozone impacts on EPA guidance regarding significant impact levels for ozone, "...[the permitting agency] must justify the values and their use in the administrative record for the permitting action." This case-by-case justification requirement is a function of the fact that neither EPA nor the Department have issued final agency rules, confirming that EPA's recommended SIL values for ozone are suitable in all circumstances to show that an increase in air quality concentration below the value does not cause or contribute to a violation of the NAAQS or PSD increments.*

### Erenstein Response:

To the extent WEG asserts that a different modeling approach is needed, or that other PSD requirements apply, this assertion is incorrect. The Clean Air Act's PSD program applies to all new major stationary sources of criteria pollutants or major modifications at existing sources when those sources are located in an attainment area.<sup>25</sup> The PSD program seeks to allow economic growth and further development without jeopardizing an area's attainment of the NAAQS.<sup>26</sup> The purpose of the PSD program is not to prohibit new construction or major modifications, but to ensure such sources are properly controlled and permitted.<sup>27</sup> Under the PSD program, a "major stationary source" is any "source with the potential to emit two hundred and fifty (250) tons per year or more of any air pollutant."<sup>28</sup> A "[m]ajor modification means any physical change in or change in the method of operation of a major stationary source that would result in: a significant emissions increase . . . of a regulated NSR pollutant . . . ; and a significant net emissions increase of that pollutant from the major stationary source."<sup>29</sup>

Because EPA has not designated Eddy County as a nonattainment area, the PSD program would only apply if the changes Crestwood requested in the Application constitute a "major modification" of a major stationary source. In attainment areas like Eddy County, the PSD program only applies to major stationary sources with the potential to emit more than 250 tpy of regulated pollutant.<sup>30</sup> Draft Permit No. 5142M8's estimated emissions of criteria pollutants are well below that threshold: 166.07 tpy NO<sub>x</sub>, 131.75 tpy CO, 162.74 tpy VOC, 11.89 tpy SO<sub>2</sub>, and 9.63 tpy of particulate emission (PM<sub>10</sub> and PM<sub>2.5</sub>). Because the Facility's emissions will not

<sup>25</sup> 42 U.S.C. § 7470 *et seq.*

<sup>26</sup> 42 U.S.C. § 7470.

<sup>27</sup> See EPA, Prevention of Significant Deterioration – Basic Information, *available at*: <https://www.epa.gov/nsr/prevention-significant-deterioration-basic-information> ("PSD does not prevent sources from increasing emissions.").

<sup>28</sup> 42 U.S.C. § 7479(1); 40 C.F.R. § 51.166(b)(1)(i)(b) (the definition of "major stationary sources" also includes certain types of sources specifically listed in 40 C.F.R. § 51.166(b)(1)(i)(a) that emit more than 100 tpy of any regulated NSR pollutant).

<sup>29</sup> 40 C.F.R. § 51.166(b)(2)(i).

<sup>30</sup> NMAC 20.2.74.7.AG states: "'Major stationary source' means the following . . . (2) Any stationary source not listed in table 1 (20.2.74.501 NMAC) and which emits or has the potential to emit two hundred fifty (250) tons per year or more of any regulated new source review pollutant."

exceed the 250 tpy threshold, the Facility is not subject to any PSD requirements and, appropriately, NMED did not impose any PSD requirements.

### **G. The Draft Permit Will Not Exceed Toxic Air Pollutant Limits**

**WEG Comment [April 16, 2021]:** *How the proposed permit modification will comply with toxic air pollutant permitting requirements at 20.2.72.400-499 NMAC, despite the likelihood that toxic air pollutants including cyclohexane, hexene, nonane, trimethylbenzene may be emitted as part of the applicant's VOC emission stream;*

#### **Erenstein Response:**

Cyclohexane, nonane, and trimethylbenzene are state-regulated toxic air pollutants ("TAPs"). NMAC 20.2.72.502 (list of TAPs); 20.2.72.400-405 (regulatory scheme). Hexene is not a listed TAP regulated by the State.

TAPs occur naturally in natural gas and condensate and will be emitted in very small concentrations from combustion equipment, triethylene glycol dehydration units, fugitives, truck loading and storage tanks at the Facility. Crestwood evaluated TAPs for draft Permit No. 5142M8 and determined emissions from cyclohexane, nonane, and trimethylbenzene are likely to be less than 10% of each specified standard in NMAC 20.2.72.502.

### **H. The Startup, Shutdown, and Maintenance and Malfunction Limits Comply with New Mexico Regulations**

**WEG Comment [April 16, 2021]:** *Whether the emission limits in the proposed permit are enforceable as a practical matter. We are concerned that any startup, shutdown, and malfunction limits are not enforceable;*

**WEG Comment [June 28, 2021]:** *We have a number of concerns over the proposed SSM and malfunction limits.*

*To begin with, the annual SSM/M volatile organic compound (VOC) and H<sub>2</sub>S limit for venting due to startup, shutdown, and maintenance and malfunction is unenforceable as a practical matter as the permit does not require actual monitoring of vented VOC and H<sub>2</sub>S emissions during these SSM/M events. Although Condition A107.C requires a facility inlet gas analysis to be completed every year, it is unclear how this inlet gas analysis is used to calculate SSM/M VOC and H<sub>2</sub>S emissions. While the Condition seems to indicate that VOC emissions will be calculated based on the total gas vented in MMscf, it is not clear how the volume of gas vented during SSM is actually measured. There is no indication that a meter or other means of volumetric measurements will be utilized to actually accurately measure vented gas. In the list of equipment in Table 104.A., the SSM unit has no identified rated or permitted capacity that would indicate the volume of gas vented could actually be measured on an MMscf basis.*

*We are also concerned that the proposed permit does not include a limit on the number or duration of SSM flaring for Unit WL1-FL emissions to ensure compliance with applicable*

*annual limits. Provision A107 of the proposed permit authorizes SSM flaring emissions in the form of many pounds per hour of nitrogen oxide (NOx) emissions, volatile organic compound (VOC) and carbon monoxide emissions, but the permit does not restrict the frequency or duration of these emissions. Without any such restriction, the proposed permit authorizes SSM emissions beyond the yearly limits set forth at Condition A107 of the proposed permit, as well as beyond the facility's potential to emit. Indeed, it's unclear from the proposed permit and Statement of Basis why NMED is proposing to require limits on the number of flaring events for Unit WL2-FL and not Unit WL1-FL. Even with the limit on the number of flaring events from Unit WL2-FL, without a limit on the duration of such events the proposed permit cannot ensure compliance with the annual emission limit.*

*For the same reasons, we are also concerned that the proposed permit does not include a limit on the number or duration of pigging operations to ensure compliance with applicable annual limits.*

*Although we understand the presumption is that the annual limits set forth at Table 107.A will restrict SSM emissions, as a practical matter, with no limitation on the duration or number of instances of SSM emissions, this cannot be the case. While the permit may impose annual emission limits during instances of SSM, it also permits the facility to operate in a way that will exceed these limits. As a result, the annual SSM limits will not serve as an actual, enforceable limit to the Willow Lake Gas Processing Plant's potential to emit.*

*We are finally concerned that the proposed SSM and malfunction limits do not address emissions of hazardous air pollutants (HAPs). All the proposed SSM and malfunction limits include VOC emissions, which indicates hazardous air pollutants, such as benzene, toluene, ethylbenzene, xylene, and hexane, will also be released during SSM and malfunction events. The permit, however, imposes no SSM or malfunction limits for HAPs. Although this suggests there should be 0 pounds or tons of HAPs emissions, this is simply not possible given the nature of VOC emissions. This raises concerns that the total potential emission rate for HAPs is underestimated and that the Willow Lake Gas Processing Plant may actually be a major source of HAPs. Indeed, with no limit on the frequency or duration of SSM and malfunction events, HAP emissions could easily exceed major source thresholds.*

*The permit either needs to address HAP emissions during SSM and malfunction events and recalculate total potential emission rates or establish HAP limits during SSM and malfunction limits if the Willow Lake Gas Processing Plant is going to avoid major classification.*

#### **Erenstein Response:**

The Facility's permit limits and conditions related to SSM emissions are in compliance with New Mexico regulations. WEG appears to make several related arguments regarding the SSM provisions in the Application not being legally and practically enforceable because they do not have certain, prescriptive monitoring, measurement, frequency, or duration limitations. The type of provisions WEG calls out are not required to render SSM limits legally and practically enforceable in New Mexico. Specifically, NMAC 20.2.7.15 requires that any source that did not adequately address emissions during routine or predictable SSM events obtain a new permit.

This, obviously, does not apply to the permit Application at issue here. But it highlights that, by virtue of the New Mexico regulations, the permit (and its associated terms and conditions) is the mechanism by which SSM emissions become legally and practically enforceable for the Facility. Put another way, there are no stand-alone regulatory provisions in New Mexico that would require the kind of duration limit, monitoring, or measurement specific to SSM emissions that WEG asserts are missing.

Turning to New Mexico's SSM permitting framework, NMAC 20.2.72.203.A(3) requires a permittee to include in its application "all reasonably quantifiable emissions that fall into [the SSM category]" and states that "[e]missions from activities in these categories that do not exceed the permitted normal emission rates for a facility do not need to be permitted separately."<sup>31</sup> As NMED's SSM Permitting Guidance goes on to explain:

There is no limit on the quantity of SSM emissions that can be permitted, provided they are routine and predictable, and included in applicable air dispersion modeling that demonstrates compliance with State and Federal ambient air quality standards.<sup>32</sup>

Thus, as a threshold matter, so long as the SSM emissions are routine, predictable, and included in "compliant" dispersion modeling, there is no legal limit. NMED has used its discretion to design this SSM permitting scheme, and EPA has blessed it. So WEG's various arguments about the Application lacking more specific measurement, monitoring, and/or duration limits, have no merit for SSM emissions that are allowed under New Mexico regulations to be unlimited.

WEG's arguments about the Application lacking legal or practical enforceability with respect to SSM emissions also fail. The SSM Permitting Guidance makes clear:

Permitting SSM and/or malfunctions does not relieve a permittee from the requirement to minimize SSM and/or malfunction emissions in accordance with 20.2.7.14 and 20.2.7.109 NMAC. Applicants are also required to submit a preliminary operational plan defining the measures to be taken to mitigate source emissions during [SSM] as part of a permit application.<sup>33</sup>

The failure to minimize SSM emissions or submit and operate pursuant to an operational plan to mitigate SSM emissions are both separate, and independently enforceable terms of the New Mexico regulations, and therefore, Crestwood's permit. The Application also makes clear NMAC 20.2.7 applies, which requires the Facility to operate "in a manner consistent with good air pollution control practices for minimizing emissions" as well as provide notice to NMED of any excess emissions.<sup>34</sup> These provisions all render the SSM emissions in the Application legally

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<sup>31</sup> Implementation Guidance for Permitting SSM Emissions and Excess Emissions (June 2012) at 2, *available at*: [https://www.env.nm.gov/wp-content/uploads/sites/2/2017/06/AQBP\\_SSM\\_PERMITTING\\_IMPLEMENTATION\\_GUIDANCE\\_07Jun12.doc](https://www.env.nm.gov/wp-content/uploads/sites/2/2017/06/AQBP_SSM_PERMITTING_IMPLEMENTATION_GUIDANCE_07Jun12.doc) ("SSM Permitting Guidance") (attached as **Exhibit Crestwood-9**).

<sup>32</sup> *Id.* at 2 (emphasis added).

<sup>33</sup> *Id.* at 3.

<sup>34</sup> See Application at p. B3 (p. 37 of marked Exhibit Crestwood-3).



and practically enforceable, contrary to WEG's assertions. In my experience, this SSM permitting approach is consistent with other permits I have worked on.

With respect to Crestwood's Application, SSM emissions at the Facility (blowdown and pigging emissions) are routine and predictable given the nature of the Facility and Crestwood accounted for these emissions in the air dispersion modeling submitted with the Application (*see* Tables 2-D and 2-F). Other SSM emissions are included under the SSM/M combined requested emission limit, which is expressly allowed by the SSM Permitting Guidance. Instead of permitting SSM and upset/malfunction emissions separately, Crestwood requested that emissions from both SSM and upset/malfunction be consolidated in the permit with a total limit of 10 tons per year for VOCs, 1 ton per year for HAPs, and 1 ton per year of H<sub>2</sub>S.<sup>35</sup> Therefore, the SSM limits address both HAPs and applicable criteria pollutants, in a conservative manner and are consistent with the SSM Permitting Guidance.

Crestwood will monitor SSM/M emissions as required by the approved permit. Draft Permit No. 5142M8 requires monitoring, recordkeeping, and reporting requirements with respect to SSM. These include a requirement to maintain 12-month rolling emission calculations to confirm compliance with SSM limits. If Crestwood exceeds the SSM limits, it must report those emissions as exceedances. NMAC 20.2.7. Finally, the Application requires Crestwood to certify it has "developed an operational plan to mitigate source emissions during SSM, defining the measures to be taken to mitigate source emissions during [SSM] as required by NMAC 20.2.72.203.5." Collectively, these regulatory requirements and corresponding permit conditions, including the 10 tpy threshold and the requirement to monitor and record rolling 12-month SSM emissions, make the SSM emissions under the Application legally and practically enforceable.

#### IV. Conclusion

Draft Permit No. 5142M8 should be issued because the draft Permit complies with all federal and state air quality regulations. WEG's arguments do not have technical merit for the following reasons:

- The Facility is a single source, and draft Permit No. 5142M8 covers all point sources.
- Trinity modeled potential air emissions using the NMED-approved modeling protocols.
- The modeling demonstrated that the additional equipment and other changes requested in the Application will not cause exceedances of any applicable NAAQS, NMAAQs, or PSD Standards, including those standards for ozone and nitrogen dioxide.
- Draft Permit No. 5142M8 imposes appropriate limits and conditions related to SSM emissions, consistent with the State's regulations.

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<sup>35</sup> This, too, is expressly authorized by the SSM Permitting Guidance, which states "[i]nstead of permitting SSM and upset/malfunction emissions separately, the applicant may request that emissions from both SSM and upset/malfunction be consolidated in the permit with a total limit of 10 tons per year per pollutant per facility for the combined category to reduce concerns about the appropriateness of activities listed as SSM." *See* p. 3. In this respect, although the Facility could have taken "unlimited" SSM emissions, it chose a conservative approach by consolidating SSM and upset/malfunction emission subject to total limits.

/s/ Adam Erenstein

Adam Erenstein

Principal Consultant, Trinity Consultants